Application No.: Not Yet Assigned

(National Phase of International Appl. No.: PCT/EP03/10148)

Amendments to the Claims:

The listing of claims will replace all prior versions, and listings, of claims

in the application:

Listing of Claims:

1. (Currently Amended) A method for cooling a fuel cell system

having a fuel cell, which comprises an anode space, to which a

hydrogen-containing gas is fed, and a cathode space, to which an

oxygen-containing gas is fed via an air intake system, a cooling device, which

forms part of a cooling circuit through which a liquid coolant is passed, being

arranged at least in the fuel cell, characterized in that comprising:

separating gaseous constituents contained in the liquid coolant; and

are separated off in the cooling circuit outside the fuel cell and fed

to the air intake system via a discharge passage which does not include any

ignition sources for an ignitable gas mixture providing an ignition source free

discharge path for separating gaseous constituents contained in the liquid

coolant wherein said ignition free discharge path is provided external to said fuel

cell is fed to the air intake system.

2. (Currently Amended) The method as claimed in claim 1,

characterized in that wherein coolant which emerges from the an exit of the

cooling device of the fuel cell is fed to a calming vessel, from which gas is

discharged at a preset excess-pressure level, the gas being fed via the discharge

passage to the mass flow of oxygen-containing gas of the air intake system, and

which is closed when the pressure drops below the excess pressure level, in order

to prevent gas from escaping to the discharge passage.

3. (Currently Amended) The method as claimed in claim—1 or 2,

characterized in that any 1, wherein gas which is present in the liquid coolant is

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separated out of the coolant upstream of the calming vessel by means of a vent

line and is then fed into the calming vessel.

4. (Currently Amended) The method as claimed in at least one of

the from the preceding claims, characterized in that claim 1, wherein gases 12

discharge passage are fed to the mass flow of air in the region of an air filter of

the air intake system.

5. (Currently Amended) The method as claimed in at least one of

the preceding claims, characterized in that claim 1, wherein the hydrogen

content of the exhaust gases from the fuel cell is monitored using a hydrogen

sensor, and in that when a preset limit value for the gas content is reached the

concentration of hydrogen in the exhaust gas is reduced to below the threshold

value by admixing hydrogen-free gas.

6. (Currently Amended) The method as claimed in at least one of

the preceding claims, characterized in that the claim 1, wherein exhaust gases

from the fuel cell are passed over a catalyst, by means of which the hydrogen

concentration In the exhaust gases is reduced.

7. (Currently Amended) The method as claimed in at least one of

the preceding claims, characterized in that claim 1, wherein a compressor in the

air intake system for feeding air into the fuel cell remains switched on after the

fuel cell has been switched off and the circulation of coolant has been shut down,

so that it continues running for a predeterminable period of time.

8. (Currently Amended) The method as claimed in at least one of

the preceding claims, characterized in that claim 2, wherein the calming vessel is

purged with air before the coolant circuit is started up.

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9. (Currently Amended) An apparatus for cooling a fuel cell system having a fuel cell[[,]] which-comprises includes an anode space, to which a hydrogen-containing gas is fed, and a cathode space, to which an oxygen-containing gas is fed via an air intake system, a cooling device, which forms part of a cooling circuit through which a liquid coolant is passed, being arranged at least in the fuel cell, characterized in that said system further including

a calming vessel (23) for the liquid coolant with a gas collection region (22) is connected downstream of the an outlet (19) or exit of the cooling device (15) of the fuel cell-(1), in that;

a gas outlet valve (25) is arranged at the a gas collection region (22), which said valve ean able to be actuated at a predeterminable gas volume or gas pressure in the calming vessel (23) and on the exit side an outlet of said value is connected, via a an ignition source free discharge passage (26) which does not include any ignition sources for an ignitable gas mixture, to the intake system for of the oxygen-containing gas.

- 10. (Currently Amended) The apparatus as claimed in claim 9, characterized in that further including a vent line (20) is arranged between the exit or outlet (19) of the cooling device (15) of the fuel cell (1) and the gas collection region (22) of the calming vessel (23).
- 11. (Currently Amended) The apparatus as claimed in claim 9 or 10, characterized in that 9, wherein the discharge passage (26) which leads away from the calming vessel (23) opens out in the gas intake system for the oxygen-containing gas in the region of a gas filter-(12).
- 12. (Currently Amended) The apparatus as claimed in at least one of claims 9 to 11, characterized in that claim 9, further including a sensor-(37) for measuring the fuel gas content in the exhaust-gas stream is provided in the an

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exhaust pipe (37) for the reaction products of the fuel cell-(1) and is, said sensor being connected to a control unit-(36), in which a limit value for the fuel gas

content in the exhaust-gas stream is set and by which a valve (38)-in an entry to the exhaust pipe (37) can be is controlled, which valve opens up an opening for

admixing air to the exhaust-gas stream when the a limit value is reached.

13. (Currently Amended) The apparatus as claimed in at least one

of claims 9 to 12, characterized in that claim 12, further including a catalyst

within the exhaust pipe for reducing the fuel gas in the exhaust-gas stream-is

present within the exhaust pipe (37).

14. (Currently Amended) The apparatus as claimed in at-least-one

of claims 9 to 13, characterized in that claim 9, wherein the calming vessel (23),

the gas outlet valve (25) and the gas discharge passage (26) consist of antistatic

materials.,

15. (Currently Amended) The apparatus as claimed in at least one

of claims 9 to 14, characterized in that claim 9, further including a moisture

separator (27)-made from antistatic material is-arranged within the discharge

passage (26).

16. (Currently Amended) The apparatus as claimed in at least one

of claims 9 to 14, characterized by its arrangement claim 9, wherein said fuel

system is positioned in a mobile device.

17. (New) The apparatus as claimed in claim 10, wherein.the

discharge passage which leads away from the calming vessel opens out in the gas

intake system for the oxygen-containing gas in the region of a gas filter.

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18. (New) The apparatus as claimed in claim 10, further including a sensor for measuring the fuel gas content in the exhaust-gas stream provided in an exhaust pipe for reaction products of the fuel cell, said sensor being connected to a control unit, in which a limit value for the fuel gas content in the exhaust-gas stream is set and by which a valve in an entry to the exhaust pipe is controlled, which valve opens up an opening for admixing air to the exhaust-gas stream when a limit value is reached.

- 19. (New) The apparatus as claimed in claim 11, further including a sensor for measuring the fuel gas content in the exhaust-gas stream provided in an exhaust pipe for reaction products of the fuel cell, said sensor being connected to a control unit, in which a limit value for the fuel gas content in the exhaust-gas stream is set and by which a valve in an entry to the exhaust pipe is controlled, which valve opens up an opening for admixing air to the exhaust-gas stream when a limit value is reached.
- 20. (New) An apparatus for cooling a fuel cell system having a fuel cell which includes an anode space. to which a hydrogen-containing gas is fed, and a cathode space to which an oxygen-containing gas is fed via an air intake system, a cooling device, which forms part of a cooling circuit through which a liquid coolant is passed, being arranged at least in the fuel cell, said system further including;

a gas outlet valve arranged at a gas collection region, said valve able to be actuated at a predeterminable gas volume or gas pressure and an outlet of said value is connected, via an ignition source free discharge passage, to the intake system of the oxygen-containing gas.